

**WHAT IS CLAIMED:**

1        1. A substantially pure polypeptide comprising an amino acid sequence at least  
2        70% identical to SEQ ID NO:6, wherein the polypeptide has a G protein-coupled receptor  
3        protein activity.

1        2. The polypeptide of claim 1, wherein the amino acid sequence is at least 80%  
2        identical to SEQ ID NO:6.

1        3. The polypeptide of claim 1, wherein the amino acid sequence is at least 90%  
2        identical to SEQ ID NO:6.

1        4. A substantially pure polypeptide, the sequence of which consists of  
2        SEQ ID NO:6.

1        5. A substantially pure polypeptide, the sequence of which consists of  
2        SEQ ID NO:6 with up to 30 conservative amino acid substitutions, deletions or insertions,  
3        wherein the polypeptide has a G protein-coupled receptor protein activity.

1        6. A substantially pure polypeptide comprising the sequence of SEQ ID NO:6, or  
2        a fragment thereof that (a) has a G-protein receptor coupled protein activity or (b) is  
3        immunogenic.

1        7. A substantially pure polypeptide encoded by a nucleic acid that hybridizes  
2        under high stringency conditions to the sequence of SEQ ID NO:5, wherein the polypeptide  
3        has a G protein-coupled receptor protein activity.

1        8. An isolated nucleic acid encoding the polypeptide of claim 1.

1        9. An isolated nucleic acid encoding the polypeptide of claim 4.

1        10. An isolated nucleic acid encoding the polypeptide of claim 5.

1           11. An isolated nucleic acid comprising a strand that hybridizes under high  
2 stringency conditions to the sequence of SEQ ID NO:5, or the complement of SEQ ID NO:5.

1           12. The isolated nucleic acid of claim 11, wherein the nucleic acid encodes a  
2 polypeptide having a G protein-coupled receptor protein activity.

1           13. The nucleic acid of claim 11, wherein the strand is at least 15 nucleotides in  
2 length.

1           14. An isolated nucleic acid comprising the sequence of SEQ ID NO:5.

1           15. An isolated nucleic acid comprising a sequence encoding the polypeptide of  
2 SEQ ID NO:6.

1           16. An antibody that specifically binds to the polypeptide consisting of SEQ ID  
2 NO:6.

1           17. A vector comprising the nucleic acid of claim 8.

1           18. A vector comprising the nucleic acid of claim 11.

1           19. A vector comprising the nucleic acid of claim 14.

1           20. A vector comprising the nucleic acid of claim 15.

1           21. A cultured host cell comprising the nucleic acid of claim 8.

1           22. A cultured host cell comprising the nucleic acid of claim 11.

1           23. A cultured host cell comprising the nucleic acid of claim 14.

1           24. A cultured host cell comprising the nucleic acid of claim 15.

1        25. An antibody that specifically binds to the polypeptide of claim 1.

1        26. A method of producing a polypeptide, the method comprising culturing the  
2        cultured host cell of claim 21 under conditions that permit expression of the polypeptide in  
3        the cell.

1        27. A method for identifying a compound that modulates a G protein-coupled  
2        receptor activity, comprising the steps of:

3            a) contacting a polypeptide of claim 1, or a cell transfected with a nucleic acid  
4        encoding the polypeptide of claim 1, with a test compound; and  
5            b) determining whether the test compound modulates a G protein-coupled  
6        receptor activity of the polypeptide or cell,  
7        thereby identifying a compound that modulates a G protein-coupled receptor activity.

1        28. A kit comprising the polypeptide of claim 1 and instructions for use in a  
2        method of screening.

1        29. A compound isolated by the method of claim 27.

1        30. A pharmaceutical composition comprising the compound of claim 29 as an  
2        active ingredient.